Amendments to the Claims:

Claims 1-8, 10, 13, 20, 43 and 53 were active and pending as of the date of the Office Action. Further examination and reconsideration of the rejections of the claims are respectfully requested.

Prior to examination of the above-identified application, please cancel claim 10 and amend the claims as indicated in the pending claims.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

1. (Currently Amended) A method of transmitting a base stream of data and an enhancement stream of data in a wireless communication system, comprising:

coding and modulating the base stream to obtain a first data symbol stream, wherein the base stream is designated to be received by a plurality of receiving entities;

coding and modulating the enhancement stream to obtain a second data symbol stream, wherein the enhancement stream is designated to be received by at least one receiving entity, and wherein the coding and modulating for the base and enhancement streams are not dependent on channel realizations of receiving entities for the base and enhancement streams;

processing the first data symbol stream in accordance with a first spatial processing scheme to obtain a first plurality of symbol substreams;

processing the second data symbol stream in accordance with a second spatial processing scheme to obtain a second plurality of symbol substreams, wherein the processing for the first and second data symbol streams is not dependent on the channel realizations of the receiving entities for the base and enhancement streams; and

combining the first plurality of symbol substreams with the second plurality of symbol substreams to obtain a plurality of transmit symbol streams for transmission from a plurality of transmit antennas, wherein the combining is performed using a superposition scheme for ~~includes time division multiplexing the first plurality of symbol substreams with the second plurality of symbol substreams to obtain the plurality of transmit symbol streams~~

a) scaling the first plurality of symbol substreams that are hierarchically coded with a first scaling factor to obtain a first plurality of scaled symbol substreams,

b) scaling the second plurality of symbol substreams that are hierarchically coded with a second scaling factor to obtain a second plurality of scaled symbol substreams, and

c) summing the first plurality of scaled symbol substreams with the second plurality of scaled symbol substreams to obtain the plurality of transmit symbol streams.

2. (Original) The method of claim 1, wherein the base stream and the enhancement stream are transmitted for a broadcast service.

3. (Original) The method of claim 2, wherein the base stream is coded, modulated, and spatially processed for recovery by receiving entities achieving a first signal-to-noise ratio (SNR) or better, and wherein the enhancement stream is coded, modulated, and spatially processed for recovery by receiving entities achieving a second SNR or better, where the second SNR is higher than the first SNR.

4. (Original) The method of claim 1, wherein the first spatial processing scheme is a transmit diversity scheme or a spatial multiplexing scheme, and wherein the second spatial processing scheme is the transmit diversity scheme or the spatial multiplexing scheme.

5. (Original) The method of claim 1, wherein each of the first and second spatial processing schemes is a transmit diversity scheme.

6. (Original) The method of claim 1, wherein each of the first and second spatial processing schemes is a space-time transmit diversity (STTD) scheme.

7. (Original) The method of claim 1, wherein the first spatial processing scheme is a transmit diversity scheme and the second spatial processing scheme is a spatial multiplexing scheme.

8. (Original) The method of claim 1, wherein each of the first and second spatial processing schemes is a spatial multiplexing scheme.

9-12 (Canceled)

13. (Previously presented) The method of claim 43, wherein the wireless communication system implements orthogonal frequency division multiplexing (OFDM).

14-19 (Canceled).

20. (Currently Amended) An apparatus in a wireless communication system, comprising:

a first data processor operative to code and modulate a base stream of data to obtain a first data symbol stream;

a second data processor operative to code and modulate an enhancement stream of data to obtain a second data symbol stream;

a first spatial processor operative to process the first data symbol stream in accordance with a first spatial processing scheme to obtain a first plurality of symbol substreams;

a second spatial processor operative to process the second data symbol stream in accordance with a second spatial processing scheme to obtain a second plurality of symbol substreams; and

a combiner operative to combine the first plurality of symbol substreams with the second plurality of symbol substreams to obtain a plurality of transmit symbol streams for transmission

from a plurality of transmit antennas, wherein the combiner is operative using a superposition scheme that ~~to time division multiplex the first plurality of symbol substreams with the second plurality of symbol substreams to obtain the plurality of transmit symbol streams~~

a) scales the first plurality of symbol substreams that are hierarchically coded with a first scaling factor to obtain a first plurality of scaled symbol substreams,

b) scales the second plurality of symbol substreams that are hierarchically coded with a second scaling factor to obtain a second plurality of scaled symbol substreams, and

c) sums the first plurality of scaled symbol substreams with the second plurality of scaled symbol substreams to obtain the plurality of transmit symbol streams.

Claims 21-42 (Canceled)

43. (Previously Presented) The method of claim 1 wherein the wireless communication system is a multi-carrier communication system.

44-52 (Canceled)

53. (Previously Presented) The method of claim 1, wherein the wireless communication system is a single-carrier communication system.